

New thieno:imidazole derivatives - are angiotensin-II antagonists for treating hypertonia, cardiac insufficiency, angina pectoris and arteriosclerosis

Patent Number: DE4034728
 Publication date: 1992-05-07
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 Requested Patent: ☐ DE4034728
 Application Number: DE19904034728 19901030
 Priority Number (s): DE19904034728 19901030
 IPC Classification: A61K31/41; A61K31/445; A61K31/495; C07D495/04; C07D495/14; C07D495/18; C07D497/18; C07D513/18
 EC Classification: C07D495/04
 Equivalents:

Abstract

Thienoimidazole derivs. of formula (I) and their acid and base addn. salts are new, where A is (a)-(c), R₁ = H, 1-8C alkyl, 3-6C alkenyl, 3-6C alkynyl (these last 3 gps. opt. substd. with one halogen, one OR₅ or 2 CO₂R₅ gps.), 3-6C cycloalkyl, 1-4C perfluoroalkyl, 1-4C-X alkyl, di(1-4C)alkylamino, -CH₂X(1-4C) alkyl or benzyl, R₂ = (d) or (e), G = (f)-(k), the dotted line is a double or single bond B is -(CH₂)_p-, CR₁₁R₁₆R₁₇-, -C(R₁₆R₁₇)CH₂-, -CH₂C(R₁₆R₁₇)- or C=CR₁₉R₁₉, R₃ and R₄ = each H, F, Cl, Br, 1-6C alkyl, 2-6C alkenyl, 2-6C alkynyl, 1-6C perfluoroalkyl, 3-6C cycloalkyl, 1-4C alkoxy, CN, C₆F₅, -(CH₂)_nOR₅, -(CH₂)_nOCOR₅, -(CH₂)_mCOR₆, -(CH₂)_mNHCOR₅, -(CH₂)_mNHCOOR₇, -NR₈R₉ or -(CH₂)_mR₁₁ or in the case of A = (a) or (c), R₃ and R₄ together form a ring via gps. -COY(CH₂)_p-, -(CH₂)_pCOY-, -CH₂COYCH₂-, -CH₂Z(CH₂)_p-, (CH₂)_pCH₂Z-, -CH=CH-W or =CHWCH=, R₅ = H or 1-4C alkyl, R₆ = H, 1-6C alkyl, 3-6C cycloalkyl, 1-6C perfluoroalkyl, Ph, NR₈R₉ or OR₅, R₇ = 1-4C alkyl or benzyl, R₈ and R₉ = each H, 1-4C alkyl, Ph, benzyl or together with the N form a ring of formula (I), R₁₀ = H, 1-4C alkyl, benzyl or 1-6C alkanoyl, R₁₁ = -C₆H₄R₁₂, R₁₂ = H, F, Cl, Br, -NR₅R₁₀, 1-4C alkoxy, OH or CO₂R₅, R₁₃ = CO₂R₅, -NH₂SO₂R₂₀ or (m), R₁₄ and R₁₅ = each H, F, Cl, Br, CN or OR₅, R₁₆ and R₁₇ = each H, 1-4C alkyl, 3-4C alkenyl, 3-4C alkynyl or -CH₂CH₂-, R₁₈ and R₁₉ = each H, 1-4C alkyl or -(CH₂)_r-, R₂₀ = 1-6C alkyl or 1-6C perfluoroalkyl, T = CH₂, O or NR₁₀, W = O, S, NH or CH=CH, X = O, S or NH, Y = O or NH, Z = CH₂, O, S or NR₁₀, I = 3, 4, m = 0-3, n = 1-6, p = 1-2, r = 4-5.
 USE/ADVANTAGE - (I) are competitive angiotensin II antagonists which bond with high affinity on angiotensin II receptors and inhibit angiotensin II induced effects both in vivo and in vitro. (I) can therefore be used to treat disorders of the heart and circulation e.g. hypertonia, cardiac insufficiency, angina pectoris and arteriosclerosis. Suitable doses are 0.01-50 mg/kg.

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